



DEPARTMENT OF  
COMMUNITY DEVELOPMENT  
LONG RANGE PLANNING

MEMORANDUM

TO: Clark County Planning Commission

FROM: Patrick Lee, Long Range Planning Manager *Patrick Lee*

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DATE: February 6, 2003

SUBJECT: Measures to Resolve Salmon Creek Moratorium:  
Arterial Atlas Amendment to Add NE 139<sup>th</sup> Street  
Transportation Capital Facilities Plan Amendment  
CCC 12.41 Transportation Concurrency Management  
System - Amendment to Table 12.41.080

CASE NUMBER: T 2002-016

**Background**

In October 2000, Clark County adopted a new Concurrency program that established 34 Concurrency corridors in the unincorporated County. Travel speed standards or level-of-service (LOS) standards were also adopted for each corridor. These standards ranged from 27 mph to 13 mph as measured during the peak traffic hour of the day. The standards are based on the projected peak hour traffic from the regional transportation demand forecasting model and Clark County's "affordable" 20-year transportation capital facilities plan. With the exception of the Salmon Creek Avenue corridor, the adopted concurrency corridors have not been in failure and the currently adopted standards appear to be appropriate for the corridors.

The Salmon Creek Avenue corridor is different. This corridor extends on NE 134<sup>th</sup> Street from the I-5 interchange to the east. The corridor ends on Salmon Creek Avenue at its intersection with NE 50<sup>th</sup> Avenue. This corridor has been in an extended concurrency failure with no near-term prospects for roadway improvement projects that would increase travel speeds. Currently the adopted travel speed standard is 22 mph and the operating level is about 20 mph; the corridor is 2 mph into failure. As a result of this extended Concurrency failure, the BOCC enacted a moratorium on new development in the Salmon Creek area in December 2001 and recently extended it until April 1, 2003.

## Proposed Actions

The resolution of the moratorium relies on a series of related policy actions. Since these actions involve amendment of transportation policy from the highest level (plan documents) to the lowest (transportation concurrency implementing code), staff recommends the consideration of all of the actions in a single public hearing. This staff report examines in turn, from highest level to lowest, the following proposals:

1. Amendment to County Arterial Atlas to add NE 139<sup>th</sup> Street as a minor arterial from the NE Tenny Road/NE 139<sup>th</sup> Street intersection to NE 20<sup>th</sup> Avenue.
2. Amendment to Affordable Transportation Capital Facilities Plan to add NE 139<sup>th</sup> Street as a funded project.
3. Amendment to Table 12.41.080 of Clark County Code 12.41, Transportation Concurrency Management System.

## Public Outreach

A Salmon Creek Moratorium Advisory Committee was established early in the process and has met continuously throughout the moratorium. The committee consists of 10 members representing major interest groups within the community representing a wide range of viewpoints and positions.

## Arterial Atlas Amendment

### Amendment Evaluation Criteria

In 1999, staff presented evaluation criteria for planning commission to consider during the process of examining nine potential amendments to the plan. Planning Commission did not take formal action on the evaluation criteria but also did not propose any amendments or additional criteria. Staff is proposing to use the same criteria now:

1. *Is there a need for a change and why?*
2. *Is the proposed change compliant with the Growth Management Act (e.g. level of service standards)*
3. *Is the change consistent with the adopted comprehensive plan?*
  - ◆ *Is it consistent with the land use plan?*
  - ◆ *Is it consistent with the rest of the Arterial Atlas?*
    - Fit with system:*      *Does it connect to the right facilities?*  
                                 *Do predicted volumes match the classification?*
  - Benefit:*              *Does it improve link volume-to-capacity?*  
                                 *Does it address arterial access conflicts?*
4. *Is the change consistent with applicable interlocal agreements?*
5. *Is the change consistent with the adopted Metropolitan Transportation Plan?*

As noted in the staff report for the 1999 amendments, the review criteria are consistent with the generalized criteria identified in CCC 18.610.130 (3), which states:

*(3) In updating capital facilities plans, policies and procedures, the county must determine that these updates are consistent with applicable policies and implementation measures of the twenty (20) year plan, and in conformance with the purposes and intent of the applicable inter-jurisdictional agreements.*

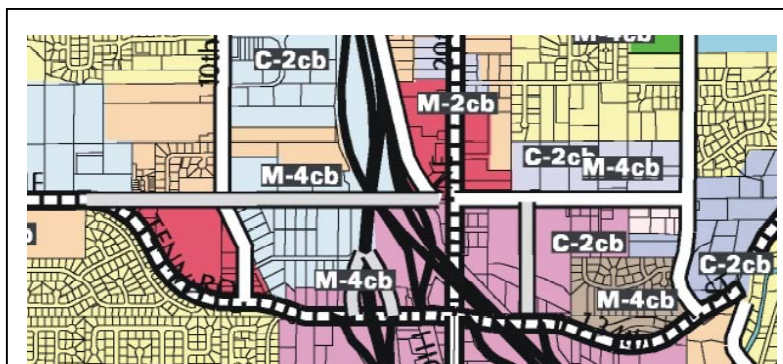
### **Description of Proposed Change, Need and Reason**

Traffic engineering analyses conducted by transportation concurrency staff in Public Works have determined that a new overcrossing of Interstate 5 (I-5) on the NE 139<sup>th</sup> Street alignment would provide additional capacity in the failed Salmon Creek corridor, when combined with other improvements already planned by either Clark County or Washington State Department of Transportation. This overcrossing has also been identified in the Access Report for improvements to the I-5/NE 134<sup>th</sup> Street interchange complex. This access report has received preliminary approval from the Federal Highways Administration on the basis of “operational feasibility.”<sup>1</sup> The Arterial Atlas does not indicate the NE 139<sup>th</sup> Street overcrossing. NE 139<sup>th</sup> Street is indicated in the atlas as an urban collector roadway between NE 20<sup>th</sup> Avenue and NE 29<sup>th</sup> Avenue.

The proposed amendment would add NE 139<sup>th</sup> Street between NE Tenny Road and NE 20<sup>th</sup> Avenue as a minor arterial with a M-4cb cross-section, as illustrated in Figure 1.

### **Consistency with GMA and Adopted Comprehensive Plan**

The purpose of this amendment is to provide a roadway link that would allow maintenance of the new level of service standard for the Salmon Creek concurrency corridor. Without this link, to allow development to continue consistent with the land use element, an even lower level of service standard would need to be set. The current lowest acceptable level of service standard in the transportation element is 13 miles per hour. If this link is not added to the plan and the level of service standard would need to be lower than the 13 miles per hour “floor” standard, then *not* adding this link to the Arterial Atlas and capital facilities plan would be inconsistent with the level of service standard concept in the Growth Management Act.



**Figure 1** Proposed NE 139<sup>th</sup> Street Amendment to Arterial Atlas

<sup>1</sup> Operational feasibility is the first step of the access break/revision process for the interstate highway system. Prior to design approval, environmental analysis is needed to ensure that the operationally feasible design proposal does not have unmitigable environmental impacts. Final approval of an access break/revision only occurs after the completion of the environmental analysis.

The proposed link would pass through an area designated as light industrial, community commercial, general commercial and urban median density residential on the current comprehensive plan.

#### Consistency with Adopted Arterial Atlas

##### Connection and Volumes

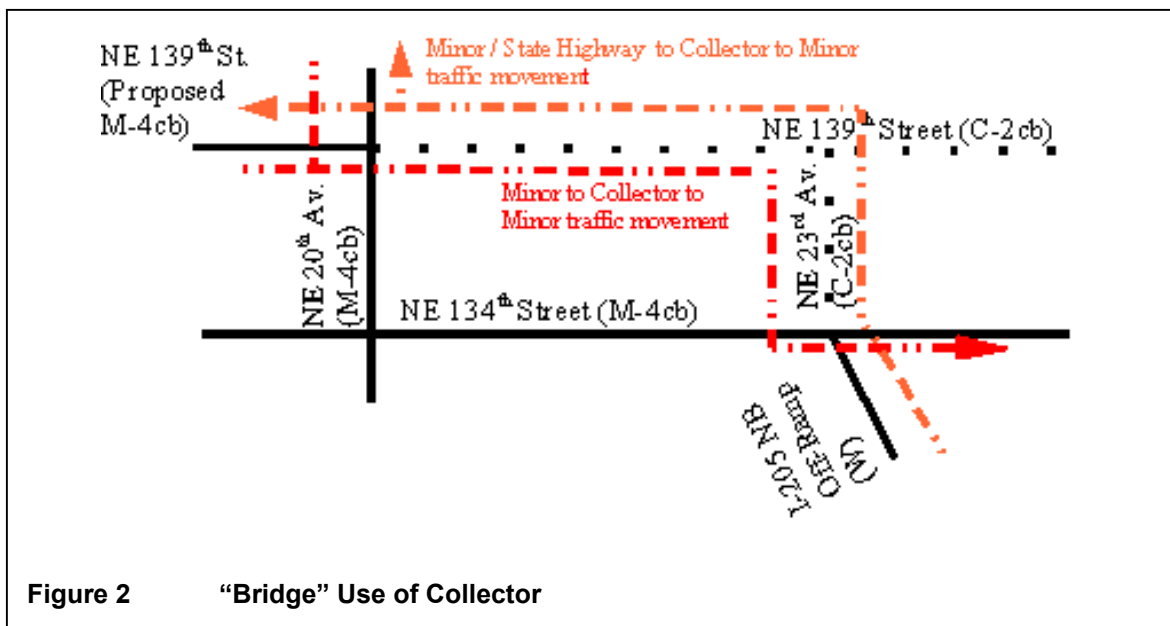
The 20-year projected volumes are tabulated in Table 1. The proposed arterial connection was modeled with both a three-lane (M-2cb) and a five-lane (M-4cb) cross-section for the purposes of examining the resulting projected volumes.

<b>Table 1</b> <b>Projected Volumes – NE 139<sup>th</sup> Street Overcrossing</b> (3 lane section on NE 139 <sup>th</sup> Street)			
Link	2020 PM Peak Hour Volume		2020 Estimated ADT
	Westbound	Eastbound	
NE 139 <sup>th</sup> Street/NE Tenny Rd. to NE 10 <sup>th</sup> Avenue	445	385	4,200
NE 10 <sup>th</sup> Avenue to NE 20 <sup>th</sup> Avenue	585	455	5,200
NE 20 <sup>th</sup> Avenue to NE 23 <sup>rd</sup> Avenue (proposed)	755	255	5,100
(5-lane section on NE 139 <sup>th</sup> Street)			
Link	2020 PM Peak Hour Volume		2020 Estimated ADT
	Westbound	Eastbound	
NE 139 <sup>th</sup> Street/NE Tenny Rd. to NE 10 <sup>th</sup> Avenue	465	385	4,300
NE 10 <sup>th</sup> Avenue to NE 20 <sup>th</sup> Avenue	605	460	5,300
NE 20 <sup>th</sup> Avenue to NE 23 <sup>rd</sup> Avenue (proposed)	780	265	5,200
Note: Peak hour projected volumes are rounded to nearest 5 trips. Projected ADTs are estimated based on p.m. peak hour being 10 percent of daily traffic and traffic flows balanced over the 24-hour day. Projected ADTs are rounded to nearest 100 trips – the reported volume is per direction.			
These projected volumes do not explicitly consider the additional trips likely to be generated by the development of a regional health care facility in this corridor.			

Increasing the modeled capacity of NE 139<sup>th</sup> Street from 3 lanes to 5 results in only a 2 percent increase in projected volumes. The need for additional capacity appears to be satisfied with a 3-lane cross section.

The projected volumes with the inclusion of the proposed arterial atlas amendment are consistent with a minor arterial designation, particularly if it were possible to provide a 5-lane cross-section east of NE 20<sup>th</sup> Avenue.

Designation of NE 139<sup>th</sup> Street from NE Tenny Road to NE 20<sup>th</sup> Avenue as a minor arterial or as an urban collector would be generally consistent with the hierarchical structure of the roadway network as portrayed in the arterial atlas. NE 139<sup>th</sup> Street from NE 20<sup>th</sup> Avenue to NE 29<sup>th</sup> Avenue would remain with its existing designation (urban collector with a C-2cb cross-section). Keeping that section of NE 139<sup>th</sup> Street as an urban collector does present one potential inconsistency. Traffic from Interstate 205 or NE 134<sup>th</sup> Street could leave those facilities and use NE 23<sup>rd</sup> Avenue (designated as an urban collector) and NE 139<sup>th</sup> Street west of NE 23<sup>rd</sup> Avenue to reach either the westerly extension of NE 139<sup>th</sup> Street or NE 20<sup>th</sup> Avenue to continue travel either west or north. A similar pattern could occur in the opposite direction. This traffic flow pattern, illustrated in Figure 2, would be an inconsistent use of the urban collectors as a bridge between higher-level classifications of roadway.



Notwithstanding the inconsistency stated previously, the addition of a parallel minor arterial to the existing NE 134<sup>th</sup> Street minor arterial may be interpreted to address a hierarchical deficiency in the adopted arterial atlas. From an ideal hierarchy, interstate highways would only have interchanges with principal arterial roadways or their equivalent (e.g., state highways of regional significance). If a parallel set of minor arterial roadways can be considered equivalent to a single, larger principal arterial roadway then the addition of the parallel NE 139<sup>th</sup> Street overcrossing to the existing NE 134<sup>th</sup> Street corridor would bring a higher level of hierarchical consistency to the arterial atlas.<sup>2</sup>

<sup>2</sup> A similar example can be found in the same general area of the county. In the Salmon Creek area, NE 17<sup>th</sup>-15<sup>th</sup> Avenue and NE 20<sup>th</sup>-22<sup>nd</sup>-29<sup>th</sup> Avenue are planned parallel minor arterials from NE 139<sup>th</sup> Street to NE 179<sup>th</sup> Street which essentially serve the role of a single, larger principal arterial.

### Capacity and Access Issues

The primary purpose of this amendment is to provide an alternative route to the existing NE 134<sup>th</sup> Street overcrossing of I-5. As an alternative route, to the extent that it attracts cross I-5 trips away from NE 134<sup>th</sup> Street, it would provide capacity in the failing transportation concurrency corridor. Table 2 provides a link-level assessment of the effect of NE 139<sup>th</sup> Street on NE 134<sup>th</sup> Street based on a simple volume-to-capacity ratio. It should be noted that this is not the same measurement used for concurrency assessment but a system level indicator of the effect of adding capacity to a corridor.

Table 2 Assessment of Capacity Effect of NE 139 <sup>th</sup> Street				
Link on NE 134 <sup>th</sup> Street	Direction	2020 Peak Hour V/C Ratio for NE 134 <sup>th</sup> St.		
		No 139 <sup>th</sup> Street	3-lane 139 <sup>th</sup> Street	5-lane 139 <sup>th</sup> Street
NE 139 <sup>th</sup> St / Tenny Rd -- NE 10 <sup>th</sup> Avenue	Westbound	0.78	0.64	0.63
	Eastbound	0.55	0.45	0.45
NE 10 <sup>th</sup> Avenue – I-5 SB Ramps	Westbound	1.27	1.02	1.00
	Eastbound	0.94	0.83	0.83
I-5 SB Ramps – I-5 NB	Westbound	0.54	0.43	0.40
	Eastbound	0.45	0.38	0.40
I-5 NB Ramps – Old Hwy 99	Westbound	1.07	0.89	0.88
	Eastbound	1.23	1.12	1.13
Old Hwy 99 – New Hwy 99	Westbound	1.07	0.89	0.88
	Eastbound	0.97	0.87	0.87
Note: These are link volume-to-capacity ratios and are not comparable to the concurrency management level of service determinations.				

In all of the links on NE 134<sup>th</sup>, projected volumes decrease with the addition of NE 139<sup>th</sup> Street to the modeled roadway system. These decreases in volume translate to better operating conditions for NE 134<sup>th</sup> Street. The volume / capacity ratios for NE 134<sup>th</sup> Street indicate that the addition of NE 139<sup>th</sup> Street would have a positive effect on system capacity.<sup>3</sup>

As a parallel facility with an equivalent classification, NE 139<sup>th</sup> Street would neither provide opportunities to improve or would it impair access management for the designated arterial system. The conversion of a section of a local street (the existing NE 139<sup>th</sup> Street from Tenny Road to NE 10<sup>th</sup> Avenue) to a minor arterial will pose some future access management challenges, as alternative access may not be readily available.

<sup>3</sup> This examination of link volume-to-capacity ratios indicates that the difference between providing a 3-lane section and a 5-lane section on NE 139<sup>th</sup> Street is not significant in terms of relieving NE 134<sup>th</sup> Street and the interchange system. However, this analysis is based on a land use plan that is currently under review. Changes to that land use plan could change this analysis significantly. As such, Long Range Planning is reluctant to recommend classifying NE 139<sup>th</sup> Street as a M-2cb facility.

## Findings and Conclusion

Adding NE 139<sup>th</sup> Street to the arterial atlas as a minor arterial roadway with a M-4cb cross-section designation from the intersection of NE 139<sup>th</sup> Street/NE Tenny Road to the intersection of NE 139<sup>th</sup> Street/NE 20<sup>th</sup> Avenue would:

- 1) Be consistent with the applicable elements of the Growth Management Act in that it would allow the county to maintain the “floor” level of service standard within the Vancouver Urban Area.
- 2) Be generally consistent with the classification of the facilities to which it would connect with the exception of the potential that the proposed NE 23<sup>rd</sup> Avenue collector roadway and a portion of the existing NE 139<sup>th</sup> Street urban collector would be used as a “bridge” between higher classifications of roadways.
- 3) Provide additional system capacity in the NE 134<sup>th</sup> Street corridor.
- 4) Pose some potential for access management conflicts; an existing local street (NE 139<sup>th</sup> Street from NE Tenny Road to NE 10<sup>th</sup> Avenue) would be converted to a minor arterial roadway.

## Staff Recommendation

**Staff recommends that the Planning Commission APPROVE the proposed amendment to the Arterial Atlas.**

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## Transportation Capital Facilities Plan Amendment

### Proposed Amendment

To provide for the timely provision of the NE 139<sup>th</sup> Street minor arterial, it is proposed that NE 139<sup>th</sup> Street be added to the county’s transportation capital facilities plan in exchange for an existing project which would be deleted (NE 154<sup>th</sup> Street overcrossing and associated improvements to NE 10<sup>th</sup> Avenue). Table 3 indicates the proposed amendment in “text markup” format.<sup>4</sup>

### Purpose and Nature of Amendment

The purpose of this capital facilities plan is to allow Clark County to proceed to program the NE 139<sup>th</sup> Street overcrossing project in a timely fashion so that it can be considered in the transportation concurrency estimates for the Salmon Creek corridor.

There are no established criteria by which to evaluate an amendment to the transportation capital facilities plan. Staff is proposing a single amendment criterion at this time (recognizing that other criteria will be developed through the ongoing plan update process).

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<sup>4</sup> “Text markup” format indicates deleted items with ~~strike through~~ and added items with underline.

**Table 3 -- Transportation Capital Facilities Plan Amendment  
20-Year Planned Roadway Improvements<sup>1</sup>**

Project Name	From Location	To Location	Total Cost	Spent to date <sup>2</sup>
SE 1st St.	NE 192nd Av.	Leadbetter Rd.	\$ 3,258,004	\$ 50,000
NE 172nd Av.	NE 18th St. intersection		\$ 235,952	\$ 3,548
NE 192nd Av.	NE 18th St.	SE 1st St.	\$ 5,047,837	\$ -
NE 162nd Av.	NE 39th St.	Ward Rd.	\$ 12,647,456	\$ 14,144
NE 162nd Av.	Ward Rd. intersection		\$ 618,561	\$ 368,237
NE Ward Rd. <sup>3</sup>	SR 500	NE 88th St.	\$ 5,916,686	
NE Andresen Rd.	NE 83rd St. intersection (Padden Pkwy.)		\$ 537,349	\$ 20,076
NE 137th Av.	SR 500	NE 78th Street	\$ 1,568,843	
NE 137th Av.	NE 76th St.	NE 99th St.	\$ 3,707,560	\$ 231,659
NE 72nd Av.	South of 99th St.	St. Johns Rd.	\$ 6,891,656	
NE 63rd St.	NE Andresen Rd.	Interstate 205	\$ 8,202,719	
NE 76th St.	I-205	NE 107th Av.	\$ 5,622,233	
NE 76th St.	NE 107th Av.	NE 117th Av.	\$ 2,128,684	\$ 14,144
NE 76th St.	NE 117th Av.	NE 142nd Av.	\$ 5,490,486	
NE 88th St.	St. Johns Rd.	Andresen Rd.	\$ 5,337,563	
NE Covington Rd.	NE 102nd Av.	Fourth Plain Blvd.	\$ 7,600,424	\$ 1,133,285
NE Covington Rd.	NE 102nd Av.	NE 76th St.	\$ 4,058,100	
St. Johns Rd. <sup>3</sup>	NE 50th Av.	NE 72nd Av.	\$ 11,265,960	
NE Fourth Plain Blvd.	NE 102nd Av./NE 53rd St.	SR 500	\$ 8,379,726	\$ 1,244,371
Padden Parkway	Andresen Rd.	NE 94th Av.	\$ 6,884,020	\$ 45,000
Padden Parkway	NE 94th Av.	SR 503	\$ 7,965,930	\$ 5,617,748
Padden Parkway	SR 503 (NE 117th Av.)	Intersection	\$ 4,261,524	
Padden Parkway	NE 117th Av.	Ward Road	\$ 15,837,500	\$ 722,698
Padden Parkway	NE 78th St.	Andresen Rd.	\$ 13,512,460	\$ 1,737,640
NE Ward Rd. <sup>3</sup>	SR 500	NE 88th St.	\$ 5,916,686	\$ 99,017
Hazel Dell Av.	NE 99th St.	NE 114th St.	\$ 4,639,613	
Lakeshore Dr.	NW 78th St.	McCann Rd.	\$ 20,644,422	
St. Johns Rd. <sup>3</sup>	NE 50th Av.	NE 72nd Av.	\$ 11,265,960	
NW 11th/16th Av.	NW 99th St.	NW 119th St.	\$ 5,819,041	
NW 119th St.	Hazel Dell Av.	NW 7th Av.	\$ 5,868,250	\$ 100,275
NE 117th/NE 119 <sup>th</sup> St.	Hwy. 99	east of Salmon Creek Av.	\$ 6,256,063	\$ 1,846,823
NE 119th St.	NE Salmon Creek Av.	NE 72nd Av.	\$ 4,442,836	
NE 25th Av.	NE 78th St.	NE 99th St.	\$ 5,716,095	\$ 201,442
NE 63rd St.	West of Intersection w/Hwy 99		\$ 455,564	
NW 78th St.	NW 9th Av.	Hazel Dell Av.	\$ 3,785,897	\$ 1,158,114
NE 10th Av.	NE 134th St.	NE 149th St.	\$ 4,983,848	
NE 134th St./Salmon Creek Av.	Rockwell Rd.	WSU Entrance	\$ 4,093,200	\$ 293,735
NE 139th St.	NE 20th Av.	NE 29th Av.	\$ 2,929,815	
NE 15th Av.	Union Rd.	NE 179th St.	\$ 5,515,703	
NE 20th Av.	NE 134th St.	NE 154th St.	\$ 6,143,848	
NE 29th Av.	NE 134th St.	NE 179th St.	\$ 5,841,021	
NE Hwy 99	NE 20th Av.	NE 134th St./I-5	\$ 15,349,999	\$ 79,000
NE 179th St.	NE 10th Av.	NE 50th Av.	\$ 16,876,800	\$ 258,719
NW 179th St.	I-5	NW 11th Av.	\$ 13,114,638	
<del>NE 154th St.</del>	<del>I-5 Overpass</del>		<del>\$ 9,303,678</del>	
NE 139th Street	NE Tenny Road	NE 20th Av.	\$ 9,303,678	
NE 10th Av.	SR 502	Carty Rd.	\$ 3,680,133	
Heisson Bridge #100			\$ 2,569,743	
NE 72nd Av.	NE 199th St.	NE 219th St.	\$ 1,576,559	
NE 199th St.	NE 122nd Av.	NE 142nd Av.	\$ 4,625,074	
Heisson Rd.	Battle Ground City Limit	NE 244th St.	\$ 1,836,324	
Total Spent to Date <sup>2</sup>				\$15,239,675
Grand Total Cost			\$ 288,757,564	
County project costs less spend to date			\$ 273,517,889	
Available 20-year County CFP funds <sup>4</sup>			\$ 13,953,530	

Notes:

<sup>1</sup>Clark County also recognizes that the City of Vancouver will construct SE 20th Street from SE 192nd Avenue to Camas City limits.

<sup>2</sup>"Spent to date" as of original adoption of "affordable" transportation capital facilities plan.

<sup>3</sup>Project shared between traffic impact fee districts. Cost shown is the project total. Only one of each of these line items is tabulated in the grand total cost value

<sup>4</sup>Projected 20-year revenue for roadway improvements less County project costs less "spent to date" (see Note 2)

Clark County's existing transportation capital facilities plan was adopted as an interim document in 2000 as part of the new corridor-based transportation concurrency management program (Ordinance 2000-10-03). That interim adoption was confirmed with adoption of the new traffic impact fee program in 2001 (Ordinance 2001-08-01A). A fundamental principal of that transportation capital facilities plan was fiscal constraint. It was projected that a total of \$287,471,419 would be available in year 2000 dollars for county transportation capital projects over a twenty-year period from 2000 to 2020. The adopted capital facilities plan allocates \$273,517,889 of that projected revenue to a list of transportation improvements. To maintain that fiscal stability of the capital facilities plan, any proposed amendment should not cause the plan to exceed the projected revenue (in 2000 dollars).<sup>5</sup>

The proposed amendment is a swap of the NE 154<sup>th</sup> Street overcrossing out of the capital facilities plan in exchange for the NE 139<sup>th</sup> Street overcrossing project. An initial engineering examination of the two projects by Public Works staff indicates that the costs of each are equivalent.

### **Findings and Conclusion**

Replacing the NE 154<sup>th</sup> Street overcrossing project with the NE 139<sup>th</sup> Street overcrossing project is consistent with the fiscal constraints embodied within the adopted capital facilities plan.

### **Staff Recommendation**

**Staff recommends that the Planning Commission APPROVE the proposed capital facilities plan amendment.**

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## **Amendment to CCC 12.41 Transportation Concurrency Management Ordinance**

### **Proposed Amendment**

To lift the existing moratorium, Clark County must recognize the travel speed improvements to the corridor from programming the new NE 139<sup>th</sup> Street improvements and lower the travel-speed standard for the corridor. The comprehensive plan indicates that the lowest expected level of service on county concurrency corridors would be 13 miles per hour.<sup>6</sup> The proposed amendment is to lower the level of service standard for the Salmon Creek (West Central) concurrency corridor from the existing 22 miles per hour to 13 miles per hour. The amendment is achieved by changing Table 12.41.080 Travel Speed Standards to indicate that the travel speed standard for the corridor is now 13 miles per hour.

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<sup>5</sup> The revenue forecast and capital facilities plan will be updated concurrently with the comprehensive plan update, which is on-going.

<sup>6</sup> See Page 3-16 of the Comprehensive Plan provided as *Appendix A* to the staff report.

**Table 12.41.080 Travel Speed Standards**

Corridors	Corridor Limits Description	Corridor Distance (mi.)	Minimum Travel Speeds (mph)	Equivalent Travel Time (minutes)
<b>North-South Roadways</b>				
Lakeshore Avenue	Bliss Rd to NE 78th St	3.54	22	9.65
Hazel Dell Avenue	Highway 99 to NE 63rd St	3.57	22	9.74
Highway 99 and NE 20th Avenue				
NE 20th Avenue (North)	NE 179th St to S of NE 134th St	2.72	17	9.60
Central	N or NE 134th St to NE 99th St	2.10	13	9.69
South	NE 99th St to NE 63rd St	1.79	17	6.32
St. Johns Road	NE 119th St to NE 68th St	2.53	22	6.90
NE 72nd Avenue	SR-502 to NE 119th St	5.00	27	11.11
Andresen Road	NE 119th St to NE 58th St	3.07	13	14.17
Gher / Covington Road	Padden to SR-500	1.76	17	6.21
SR-503				
North	SR-502 to NE 119th St	5.09	27	11.31
South	NE 119th St to Fourth Plain	2.80	13	12.92
Ward Road	Davis Rd to SR-500	1.18	13	5.45
NE 162nd Avenue	Ward Rd to NE 39th St	2.39	22	6.52
NE 182nd Avenue	Risto Rd to Davis Rd	4.43	27	9.84
<b>East-West Roadways</b>				
SR-502	SR-503 to NE 179th St	7.51	27	16.69
179th Street				
West	NW 41st Ave to I-5	2.40	22	6.55
West Central	I-5 to NE 72nd Ave	2.97	22	8.10
139th Street and Salmon Creek Avenue				
139th Street West	Seward Rd to I-5	2.66	22	7.25
Salmon Creek Avenue (West Central)	I-5 to NE 50th Ave	2.20	22 13	6.00 10.20
119th Street				
West	Lakeshore to Hazel Dell	2.21	22	6.03
West Central	Hwy 99 to NE 72nd Ave	2.64	17	9.32
East Central	NE 72nd Ave to SR-503	2.26	22	6.16
99th Street				
West	Lakeshore to I-5	1.97	22	5.37
West Central	I-5 to St. Johns Rd	2.13	22	5.81
East	SR-503 to NE 172nd Ave	2.76	22	7.53
Padden Parkway (East Central)	I-205 to SR-503	1.91	22	5.21
78th / 76th Street				
West	Lakeshore to I-5	1.31	17	4.62
West Central	I-5 to Andresen	2.99	17	10.55
East Central	Andresen to SR-503	2.43	17	8.58
East	SR-503 to Ward Rd	1.65	17	5.82
Fourth Plain Boulevard				
East Central	I-205 to SR-503	1.03	13	4.75
East	SR-503 to 162nd Ave	2.33	13	10.75
63rd Street				
West Central	Hazel Dell to Andresen	3.25	22	8.86
East Central	Andresen to NE 107th Ave	1.91	17	6.74

## Purpose and Nature of the Amendment

The existing and expected traffic conditions in the Salmon Creek (West Central) concurrency corridor will not permit additional development even when the travel speed benefits of the proposed NE 139<sup>th</sup> Street are considered given the current standard of 22 miles per hour. The expected travel speed in the corridor with permitted but unconstructed development was determined to be 20 miles per hour when the Board enacted the moratorium in December 2001. While adding roadway capacity through several public and private improvements would improve the operating condition of the corridor, those improvements are not sufficient to remove the moratorium, as shown in Figure 3.

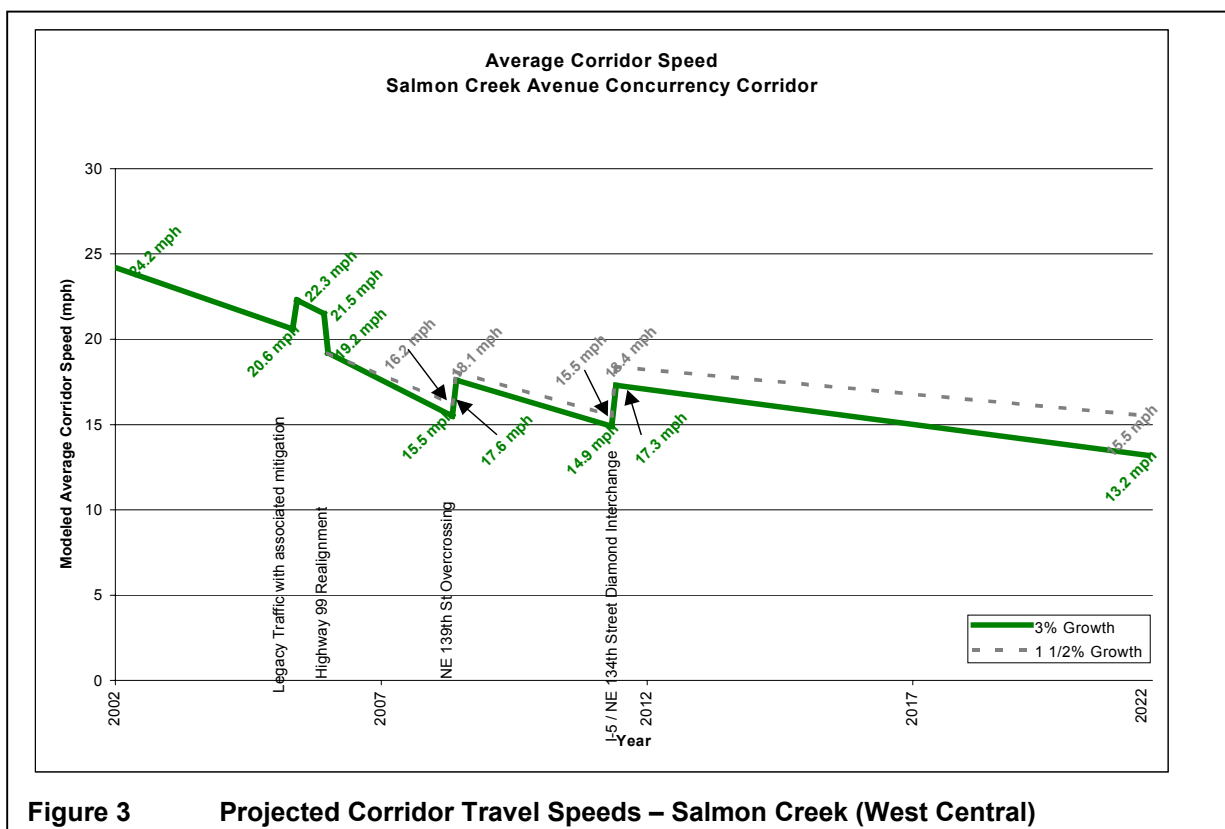


Figure 3 illustrates that even with programmed roadway improvements, the expected travel speed in the Salmon Creek (West Central) transportation concurrency corridor rarely reaches the current standard of 22 miles per hour. Adopting a new standard of 13 miles per hour would keep the corridor out of failure until 2022 if growth in traffic does not exceed 3 percent and expected state highway improvements to the I-5/134<sup>th</sup> Street interchange.

There appear to be three reasons for the extended failure of the corridor:

- 1) The spreadsheet-based model of travel time used previously to calculate the adopted travel speed standard of 22 miles per hour fail when intersections are very closely spaced. That condition exists on NE 134<sup>th</sup> Street. More specialized

simulation models have indicated that with this very close intersection spacing, the standard should have been set lower.

- 2) The adopted standard of 22 miles per hour was set based only on a 2020 travel speed projection for the corridor, with no consideration of travel speeds during the interim years. Recent modeling indicates that during interim years and prior to the funding of the state's I-5/134<sup>th</sup> Street diamond interchange project, travel speeds on the corridor will be considerably lower than 22 miles per hour.
- 3) There are unanticipated developments with significant traffic generation locating in very close proximity to the highly congested intersections on NE 134<sup>th</sup> Street between I-5 and I-205. For example, the Legacy hospital proposal, near the NE 134<sup>th</sup> Street/NE 20<sup>th</sup> Avenue intersection, will generate more than 900 new PM peak hour trips on a site that was not assigned development in the regional model inputs used for the development of the county's concurrency program.<sup>7</sup>

### **Findings and Conclusion**

The amendment of the travel speed standard in CCC 12.41 for the Salmon Creek (West Central) transportation concurrency corridor is more of an adjustment to adopted policy than setting a new policy direction, based on the following findings:

- 1) The former spreadsheet analysis technique to predict travel speed in a corridor does not adequately address closely spaced intersections.<sup>8</sup>
- 2) The travel speed in any corridor is subject to fluctuation depending on the timing of land use development and roadway improvements. The original standards set for the corridor-based concurrency program were not based on an analysis of that fluctuation but on the resulting travel speed in the planning horizon year (then 2020).
- 3) The input to the transportation model failed to predict major trip generators. This risk will always exist and policy adjustments like this will be necessary to address unpredicted transportation demand.

### **Staff Recommendation**

**Staff recommends that Planning Commission APPROVE the amendment to the transportation concurrency standard for the Salmon Creek (West Central) corridor.**

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<sup>7</sup> In the development of the transportation inputs for the comprehensive plan update, considerable effort has been made to avoid such errors. It should be recognized that translating the generalized designations of the comprehensive plan into the numeric tabulation of households and employment required by the transportation model is as much "art" as it is "science." Regardless of the effort spent in refining those land use allocations to the transportation analysis zones, there will always be locations in the county where those allocations are not borne out by the eventual reality of the land development process.

<sup>8</sup> A similar finding was made in the federally-funded study of the Clark County Transportation Concurrency Program when the spreadsheet-based analysis tool was replaced with a traffic impact analysis tool (TRAFFIX) used by Clark County in the day-to-day administration of the transportation concurrency program. That study also predicted a lower travel speed in this corridor than the spreadsheet analysis tool used for recommending the original corridor standard.



## **Appendix A**

### **Excerpt from Comprehensive Plan, Chapter 3, Transportation Element**

The following page is excerpted from the comprehensive plan. It addresses the level of service standard. The minimum acceptable corridor travel speed is 13 miles per hour (LOS E for Type II Urban Arterials). Since the proposed concurrency management ordinance is not lower than 13 miles per hour, this proposed code amendment is consistent with the comprehensive plan.

## Highway Capacity Manual Definitions of LOS

**Table 3. Type I Urban Arterials, roadway segment average travel speed**

LOS CLASS	A	B	C	D	E	F
AVG TRAVEL SPEED (MPH)	≥42	≥34	≥27	≥21	≥16	< 16

**Table 3.5 Type II Urban Arterials, roadway segment average travel speed**

LOS CLASS	A	B	C	D	E	F
AVG TRAVEL SPEED (MPH)	≥35	≥28	≥22	≥17	≥13	< 13

**Table 3.6 Level of Service Criteria for Signalized Intersections**

LOS CLASS	A	B	C	D	E	F
CONTROL DELAY PER VEHICLE (SECONDS)	≤10	> 10 & ≤ 20	> 20 & ≤ 35	> 35 & ≤ 55	> 55 & ≤ 80	> 80

**Table 3.7 Level of Service Criteria for Unsignalized Intersections**

LOS CLASS	A	B	C	D	E	F
CONTROL DELAY PER VEHICLE (SECONDS)	≤10	> 10 & ≤ 15	> 15 & ≤ 25	> 25 & ≤ 35	> 35 & ≤ 50	> 50

### Clark County Level of Service Standards

Clark County level of service standards will be applied at both the corridor and intersection level of analysis. The concurrency ordinance will identify specific, designated arterial corridors. Levels of service on these corridors will be defined in the concurrency ordinance according to roadway type, location and function. Corridors will fit into one of four level of service categories, Type I Arterial level of service C, Type II Arterial level of service C, Type II Arterial level of service D, and Type II Arterial level of service E, as identified in the HCM and as presented above in the summary tables 3.4 and 3.5.

In addition, intersections within designated corridors will be subject to additional level of service standards so that a) for signalized intersections no individual movement at any intersection may exceed two cycle lengths or 240 seconds of delay, whichever is shorter, and b) for unsignalized intersections HCM level of service E is not exceeded. Intersections which exceed these standards may fail independent of the entire corridor.

Outside of designated corridors: c) all signalized intersections of regional significance may not exceed HCM level of service D, and no unsignalized intersection may go below HCM level of service E.

Levels of service on Highways of Statewide Significance will be set by the Washington State Department of Transportation. Level of service for Highways of Regional Significance

will be determined by the Southwest Washington Regional Transportation Council.

The unsignalized intersection LOS methodology is not used as a criteria to install signals. Unsignalized intersections must meet legal signal warrants (volume, safety, and operating criteria) before a signal can be installed. Indiscriminate installation of traffic signals can actually increase accidents as well as add unnecessary expense. The application of unsignalized intersection analysis will be addressed in detail in the Transportation Impact Analysis ordinance.

The result of the *Partnership Planning* program was to recommend a county wide roadway LOS system with a hierarchical standard in the rural area and in the Vancouver urban area. A countywide system will allow consistency throughout the region, and also permit a smoother transition during annexations. Three alternative PM peak hour LOS scenarios were analyzed to measure the effects on a 2013 travel demand forecast. The PM peak hour is used for analysis because it is typically the highest hourly volume in a 24-hour period. Deficient roadways are defined as those links or intersections that exceed the adopted LOS standard. Therefore, the adopted LOS standard will determine the current and future improvements projects in the transportation plan. The roadway LOS standard must reflect a reasonable balance between the amount of improvements the county and its cities can